REMARKS

Claims 6-18 are currently pending. Claims 6, 7, 9-12, 15 and 16 have been amended. New claim 18 has been added herein. Reconsideration is respectfully requested.

The Office Action includes an objection to claim 6. Claim 6 has been amended in a manner that eliminates the language noted by the Office, and withdrawal of the objection is respectfully requested. The amendment to claim 6 is not intended to narrow the scope of the affected claim element.

The Office Action also includes a rejection of claims 6-17 under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In an effort to expedite prosecution, claims 6, 9, 10, 11 and 15 have been amended to delete the language that the Office finds objectionable, and to replace the deleted language with language such as, for example, "a position detector for detecting a first image interval based upon the second photoreception signal group and the first photoreception signal group" (see, e.g., claim 6). Support may be found in the present specification, for example, at: page 18, line 20 to page 20, line 17; page 8, line 15 to page 9, line 4; page 9, line 14 to page 11, line 3; and page 24, lines 3-14. Examples of the first and second image intervals recited in claims 6 and 9 are image intervals X and Y noted at page 18, lines 20-25 (see, e.g., Figure 3) and an example of the image interval recited in claims 11 and 15 is image interval Z noted at page 24, lines 3-14 (see, e.g., Figure 11). Of course the claims are not intended to be

limited by these examples. Claim 10 has been amended to delete the language the Office finds objectionable in order to expedite prosecution. Withdrawal of the rejections is respectfully requested. The above-described claim amendments are not intended to the narrow the scopes of the affected claim elements.

Notwithstanding the above-noted claim amendments, it is believed that claim language added in the prior amendment did not constitute new matter. As noted at M.P.E.P. § 2163.02, the subject matter of a claim need not use the same terms as used in the disclosure in order for the disclosure to satisfy the written description requirement. Moreover, M.P.E.P. § 2163.02 states that the fundamental inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that the applicant was in possession of the now claimed invention as of the filing date sought (citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991)).

The Office Action also includes a rejection of claims 6-10 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claims 6 and 9 have been amended recite the angle of the second object image as being relative to an axis of the second area sensor as suggested by the Examiner. Claims 11 and 12 have been similarly amended. It is submitted that these changes merely make explicit what was already implicit, and the changes are not intended to narrow the scopes of the affected claim elements. Claims 9 and 10 have been amended to change "analogous object images" to "first and second object images", although it is believed one of ordinary skill in the art would have readily

understood that claims 9 and 10 were referring to the first and second object images in this regard. Withdrawal of the rejection is respectfully requested. These changes to claims 6 and 9-12 are not intended to narrow the scopes of the affected claims elements.

The Office Action includes a rejection of claims 6-9 and 11-17 under 35 U.S.C. §102(b) as allegedly being anticipated by the *Hasegawa et al.* patent (U.S. Patent No. 5,715,043). This rejection is respectfully traversed.

Claims 6 and 9 each recite, *inter alia*, a first area sensor having sensing elements disposed two-dimensionally and a second area sensor having sensing elements disposed two-dimensionally for receiving light of the first and second object images, respectively. In the April 30, 2002 Amendment, Applicants submitted that the *Hasegawa et al.* patent did not disclose area sensors, citing column 9, lines 32-35 of the *Hasegawa et al.* patent, which refers to *line* sensors 4R, 4L, and 4LA discussed with reference to Figure 1 therein. In paragraph 10 of the present Office Action, the Office argues that line sensors are area sensors because "a line encompasses an area." Applicants respectfully disagree. The term "area sensor" is a term of art known by those of ordinary skill in the art to refer to a sensor having sensing elements arranged in two dimensions (see, e.g., present specification at page 18, lines 7-9). In contrast, "line sensors" are understood by those of ordinary skill in the art to have sensing elements arranged in one dimension (along a line). The *Hasegawa et al.* patent discloses using line sensors as noted above, but does not disclose using area sensors.

Nevertheless, in an effort to expedite prosecution, claims 6 and 9 have been amended to recite that the first and second area sensors have having sensing elements disposed two-dimensionally. It is submitted that this change (also made to claim 15) merely makes explicit what was already implicit, and this change is not intended to narrow the scopes of the affected claim elements. Accordingly, claims 6 and 9 are not anticipated for at least these reasons. Withdrawal of the rejection and allowance of claims 6 and 9 is respectfully requested. Claims 7, 8 and 10 depend from claims 6 and 9 and are allowable at least by virtue of dependency.

Independent claim 15 recites an image sensing device comprising, *inter alia*, an area sensor having sensing elements disposed two-dimensionally for receiving light of an object image. Accordingly, claim 15 is not anticipated by the *Hasegawa et al.* patent at least for reasons similar to those set forth above for claims 6 and 9. Accordingly, withdrawal of the rejection and allowance of claim 15 is respectfully requested. Claims 16 and 17 depend from claim 15, and these claims are therefore allowable at least by virtue of dependency.

Independent claim 11 has been amended and recites an image sensing device comprising, *inter alia*, an optical system having a single optical axis for forming an object image, a first sensor array arranged in the approximate image forming plane of the optical system for receiving light of the optical image, and a second sensor array arranged in the approximate image forming plane of the optical system for receiving light of the object image. In other words, both the first and second sensor arrays are arranged at an

approximate image forming plane of the same optical system having a single optical axis, and both the first and second sensor arrays receive light from the same object image formed using that optical system. It is noted that page 23, lines 14-15 of the present specification, for example, describes the example illustrated in Figure 9 of the present application as having a "single" optical system. One of ordinary skill in the art would readily understand that a single optical system in this regard has a single optical axis. Of course, claim 11 is not intended to be limited by the example of Figure 9.

In contrast, the optical system 1 illustrated in Figure 2 of the *Hasegawa et al.* patent is not an optical system as claimed in claim 1. As stated at column 8, lines 62-63 of the *Hasegawa et al.* patent, "The lens 1 is an integrated lens of right and left lenses 1R and 1L having parallel optical axes." Moreover, it is submitted that the images 5L and 5R disclosed in the *Hasegawa et al.* patent are not properly considered an "object image" as recited in claim 1. Rather, the images 5L and 5R are described in the *Hasegawa et al.* patent as "two images 5L and 5R" (see, e.g., column 9, lines 7-14 therein). Accordingly, for at least these reasons, claim 11 is not anticipated by the *Hasegawa et al.* patent. Withdrawal of the rejection and allowance of claim 11 is respectfully requested. Claims 12-14 depend from claim 11 and are therefore allowable at least by virtue of dependency.

The Office Action includes a rejection of claim 10 under 35 U.S.C. §102(b) as allegedly being unpatentable over the *Hasegawa et al.* patent. Claim 10 depends from claim 9, and claim 10 is therefore allowable at least by virtue of dependency. Withdrawal of the rejection and allowance of claim 10 is respectfully requested.

New claim 18 has been added to round out the scope of protection being sought. Support may be found, for example, at page 24, lines 3-5. Claim 18 is allowable at least by virtue of dependency upon claim 11. Allowance of claim 18 is respectfully requested.

In light of the foregoing remarks, withdrawal of the objections and rejections of record and allowance of this application are respectfully solicited. Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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Attachment to Amendment
Marked-up Claims 6, 7, 9-12, 15 and 16

6. (Twice Amended) An image sensing device comprising:

a first optical system for forming a first object image;

a first area sensor having sensing elements disposed two-dimensionally arranged in the approximate image forming plane of the first optical system for receiving the light of the first object image;

a second optical system for forming a second object image;

a second area sensor having sensing elements disposed two-dimensionally arranged in the approximate image forming plane of the second optical system for receiving the light of the second object image;

a signal reader for reading a first photoreception signal group from said first area sensor, a second photoreception signal group from said second area sensor and a third photoreception signal group from said second area sensor;

a position detector for detecting a [position of a first portion of the second object image relative to the first image] first image interval based upon the second photoreception signal group and the first photoreception signal group and for detecting a [position of a second portion of the second object image relative to the first object image] second image interval based upon the third photoreception signal group and the first photoreception signal group; and

X axis

Y axis

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an angle detector for detecting a magnitude of an angle of the second object image [incident upon said] relative to an axis of the second area sensor based on the detected [positions] image intervals.

7. (Twice Amended) An image sensing device according to claim 6, wherein said angle detector detects the angle of the second object image relative to [said area sensors] the axis of the second area sensor by means of data of relative positional relationship of said optical systems and said area sensors.

9. (Twice Amended) A distance measuring device comprising:

a first optical system for forming a first object image;

a first area sensor having sensing elements disposed two-dimensionally arranged in the approximate image forming plane of the first optical system for receiving the light of the first object image;

a second optical system for forming a second object image;

a second area sensor having sensing elements disposed two-dimensionally arranged in the approximate image forming plane of the second optical system for receiving the light of the second object image;

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a signal reader for reading a first photoreception signal group from said first area sensor, a second photoreception signal group from said second area sensor and a third photoreception signal group from said second area sensor;

a position detector for detecting a [position of a first portion of the second object image relative to the first image] first image interval based upon the second photoreception signal group and the first photoreception signal group and for detecting a [position of a second portion of the second object image relative to the first object image] second image interval based upon the third photoreception signal group and the first photoreception signal group;

an angle detector for detecting a magnitude of an angle of the second object image [incident upon said] relative to an axis of the second area sensor based on the detected [positions] image intervals; and

a distance detector for calculating an object distance based on a distance between analogous object images formed on the first and the second area sensors.

10. (Twice Amended) A distance measuring device according to claim 9, wherein said distance detector includes a distance correcter for correcting the distance between [analogous] the first and second object images formed on the first and the second area sensors to a corrected distance [that would be obtained if the second object image

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were oriented at a predetermined angle relative to said second area sensor,] and that calculates the object distance using the corrected distance.

11. (Twice Amended) An image sensing device comprising:

an optical system having a single optical axis for forming an object image;

a first sensor array arranged in the approximate image forming plane of the optical system for receiving [the] light of the object image;

a second sensor array arranged in the approximate image forming plane of the optical system for receiving [the] light of the object image;

a signal reader for reading a first photoreception signal series from said first sensor array and a second photoreception signal series from said second sensor array;

a position detector for detecting [a position of a portion of the object image relative to another portion of the object image] an image interval based upon the second photoreception signal series and the first photoreception signal series; and

an angle detector for detecting a magnitude of an angle of the object image relative to an axis of one of said sensor arrays based on the detected [position] image interval.

12. (Twice Amended) An image sensing device according to claim 11, wherein said angle detector detects the angle of the object image relative to the axis of one of said

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sensor arrays by means of data of relative positional relationship of said sensor arrays in said image sensing device.

15. (Twice Amended) An image sensing device comprising:

an optical system for forming an object image;

an area sensor having sensing elements disposed two-dimensionally arranged in the approximate image forming plane of the optical system for receiving the light of the object image;

a signal reader for reading a first photoreception signal group from said area sensor and a second photoreception signal group from said area sensor;

a position detector for detecting [a position of a portion of the object image relative to another portion of the object image] an image interval based upon the second photoreception signal group and the first photoreception signal group; and

an angle detector for detecting a magnitude of an angle of the object image relative to an axis of said area sensor based on the detected [position] image interval.

16. (Twice Amended) An image sensing device according to claim 15, wherein said angle detector detects the angle of the object image relative to the axis of said area sensor by means of data of relative positional relationship of the detected position and said area sensor in said image sensing device.